MOVING IN A LIVABLE REGION

FEB 2020

Web 3.0, 5G, and The Market of One
Techno-disruption in mobility + land-use

Homo deus
c. 2020

OVERVIEW

Technological disruption is not a new phenomenon; it has been the general means of human progress as long as we can recall. By its very nature, no industry is ever really prepared for it – often, success is determined by adaptation.

The mobility and land-use activities of Metro Vancouver are not isolated from the effects of technological disruptions. In order to better understand the trends we should be adapting to, we need to gain an appreciation for a new principle – *the supremacy of the* **individual user**.

the
user

their world

UNDERSTANDING
THE MARKET OF ONE

D/SRUPTION

An online publishing hub by leaders from the tech, investment, and enterprise worlds.

Digitizing and connecting aspects of daily reality has allowed for unprecedented data collection. This, in turn, has enabled personalization on an increasingly granular level.

"*Developing the capabilities to measure specifically what an individual consumer wants, and being in a position to link processes and resources to provide it will be essential to business success.*"

ROB PREVETT, CEO OF D/SRUPTION

As the availability of artificial intelligence support becomes ubiquitous with the basic functions of consumer devices, personalization is poised to take over every conceivable human-interactive activity **including mobility**.

Mobility as a Service (MaaS) is the most visible creature of the Market of One consuming transportation. Individual users remain central focus and solutions are tailored to individual needs.
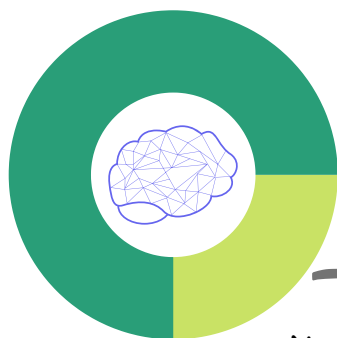
FORBES
The Path to Personalization

1 in 4
Marketing companies using AI + Machine Learning to personalize customer interactions

ACCENTURE REPORT
ON *MAAS* FORECASTS

$1.75tn

IN REVENUES BY 2030

CONNECTING WITH
5G AND WEB 3.0

Today's internet relies on centralized entities to collect, store, and distribute user-generated data. This data heavily factors into the current developments of the Market of One. However, **Web 3.0** envisions a decentralization of the internet providing users greater control over their data and transactions.

5G cellular technology is a speed, latency, and capacity infrastructure upgrade. It forms the platform for advancement involving the Internet of Things (IoT) and Web 3.0. It will be able to support 1 million devices per sq.km. and reduce data latency to 1 millisecond, allowing for uses like remote surgery.

EFFECTS ON MOBILITY

SAFETY UPGRADES THROUGH AUTO COMMUNICATION

CONNECTING WHEN TRAVELLING UP TO 500 KM/H

REAL-TIME TRAFFIC CLOUD

CITY-WIDE TRAFFIC MGMT THROUGH A HIVE BRAIN

AUTOMATED NAVIGATION FOR EMERGENCY SERVICES

AUTOMATED WAREHOUSING + GOODS DELIVERY

AUGMENTED REALITY WAY-FINDING

AUTONOMOUS VEHICLES + MAAS TRANSIT

While news outlets predict an end to car ownership, and we did see a decline among younger consumers during the early part of the '10s, that trend seems to have reversed.

However, it is still too early to predict how the advent of 5G, driverless vehicles, expanded integrated mobility services will cause consumers to shift their choices.

Mobility as a Service applications like *UbiGo* from Sweden and *Whim* from Finland offer public transit, carsharing, car rentals, bike rentals, and taxi services through one payment system and user interface. *Bridj* from the US operates an on-demand commuter shuttle service.

All of these services will be able to greatly expand their capabilities and minimize their costs with the introduction of 5G and AVs. Planners will need to respond to the growth of this new creature in the mobility space.

ANALYZING THE
FUTURE OF RIDE-HAILING

The current challenge for the world's ride-hailing giants is charting a path to profitability. Another challenge they face is scrutiny by policy makers on issues of congestion, labour relations, mode shift, etc. affecting their operations.

According to *Wired*, autonomy provides a path to profitability for companies like Uber, which has invested over $1 billion on AV technologies. One of the aims behind these activities is to eventually completely phase out personal vehicle ownership.

Waymo, the driverless taxi project from Google, has already been testing out their vehicles around Phoenix, AZ since 2016. Moving forward, we should expect more tech companies entering the mobility industry.

MAPPING OUT
CHALLENGES + OPPORTUNITIES

Listed below are samples of issues we will have to be prepared for. The issues are mapped against how they affect the state of equity, health, resilience, and economic development.

EQ EC H R

CONGESTION + CARBON
What do the evolving models of vehicle ownership and MaaS mean for congestion? How does this affect our efforts towards a post-carbon future?

AFFORDABILITY
We need to understand how shifts in mobility trends affect access for various socioeconomic groups. We also need to be aware of intersectional social impact and systemic biases.

EQ EC H

ACTIVE TRANSPORTATION
With the ease of universal access to mobility options and the affordability created through competition, we need to monitor how population health is affected by mobility mode shifts.

EQ H

ASSET MANAGEMENT
The management of infrastructure assets is shared between three levels of government. What do management and funding models look like when assets look different? What responsibilities should private mobility services bear?

R EC

LAND USE PLANNING
With the shifting nature of work, changes in housing costs, increasing immigration, climate change and new mobility trends, how do we plan out Metro Vancouver as region that is mobile, sustainable, globally competitive, and resilient?

EQ EC H R

COMPETITIVENESS
A healthy regional economy needs to be nimble and adaptive to global markets. What are the industries that are going to dominate global markets in the next decade and how can BC get, and stay, on their radar?

EC